

# Gendered analysis of climate change adaptation strategies and food security outcomes in selected agroecological zones of Cameroon

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## Introduction

- Climate adaptation and mitigation are crucial for food production, distribution, and consumption.
- Recent studies have shown that female farmers are more vulnerable to climate change than males, and they mobilize different practices to face it.
- Studies on male-female adaptation practices, with an emphasis on the various forms and origins of adaptation practices and their welfare outcomes, are scarce in the literature.

## Objectives

- The study's objective is to examine the gendered effects of climate change adaptation practices on farm household food security in selected Cameroonian agroecological zones.

## Conceptual framework

- Sustainable livelihood framework

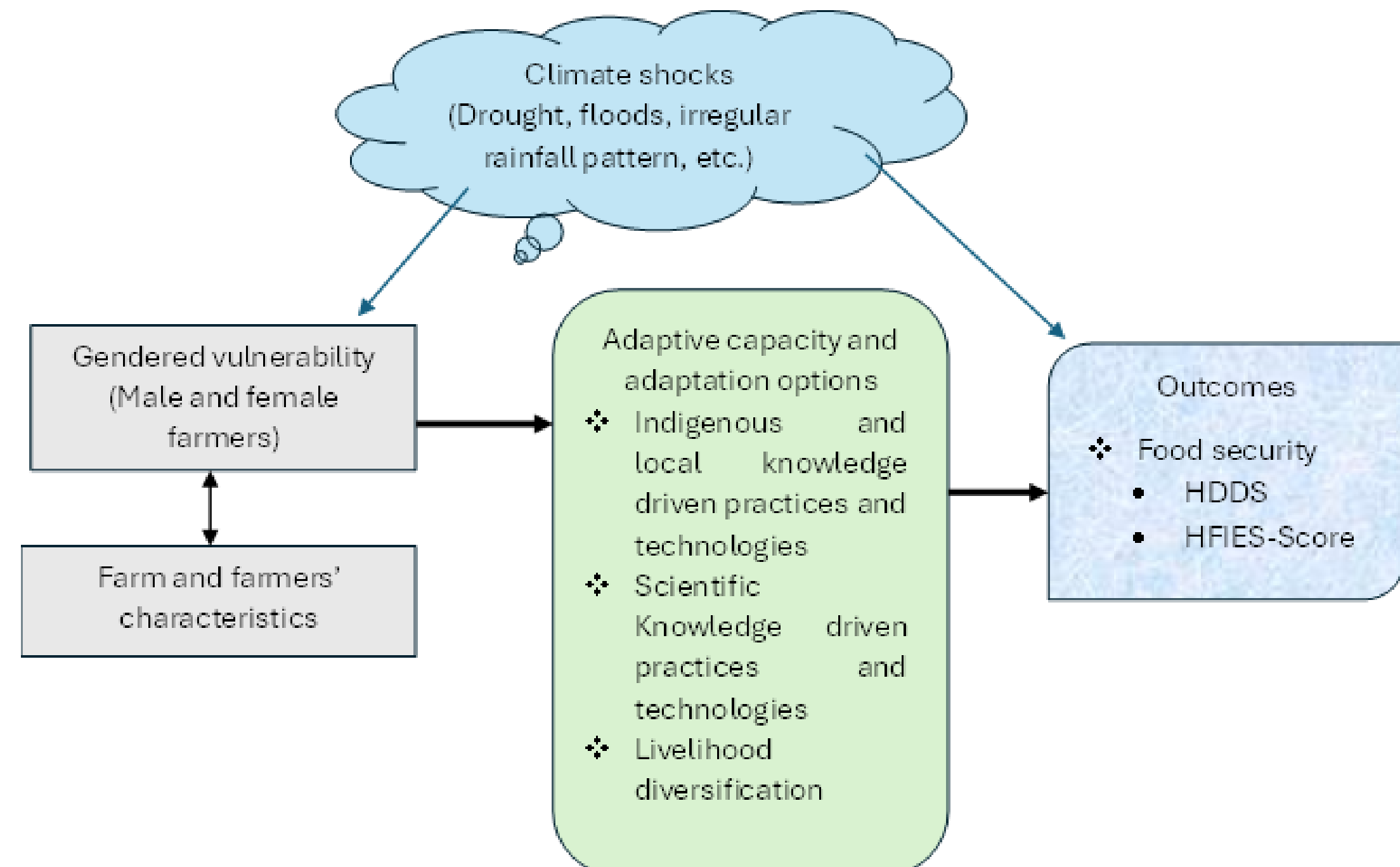


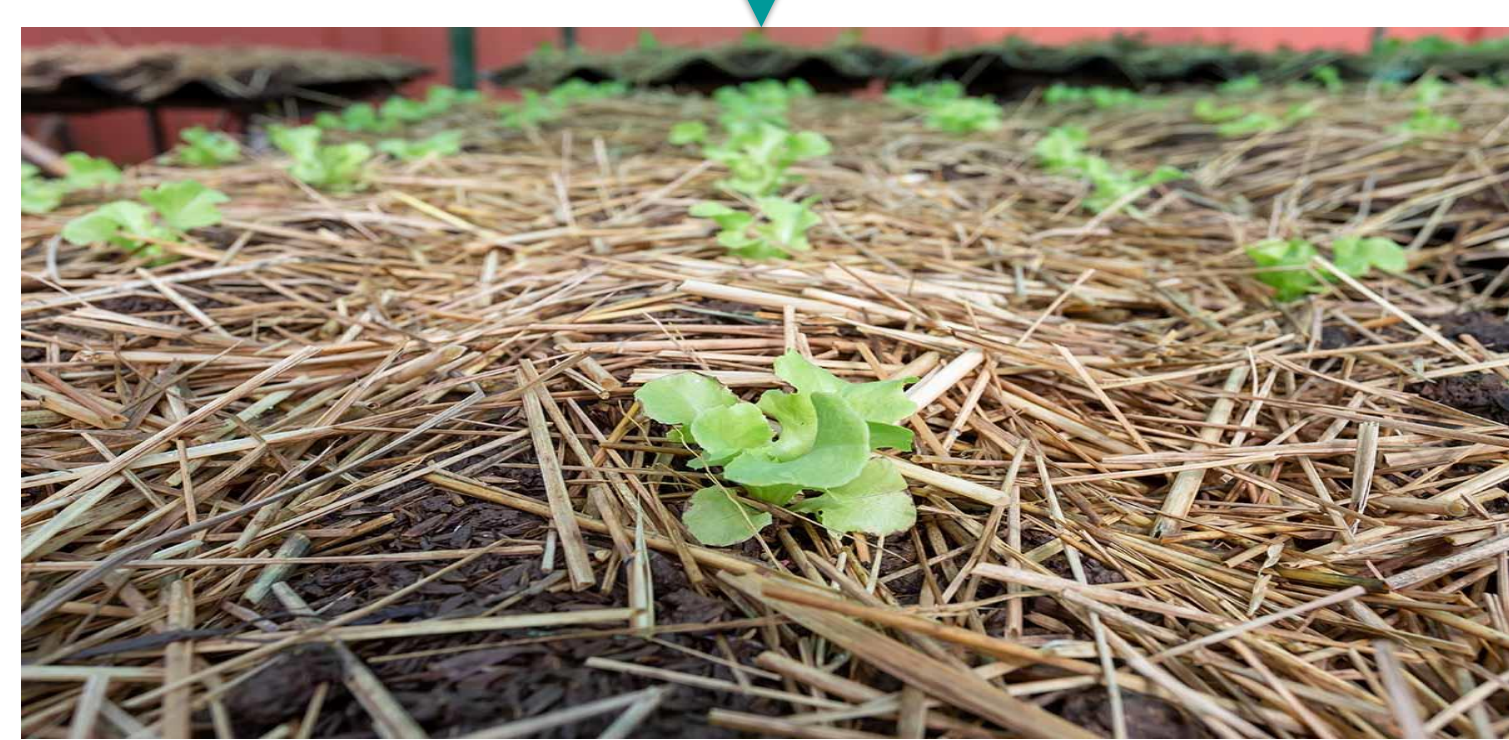
Figure 1: Conceptual framework for gendered adaptation practices and food security

## Methodology

- Primary data: collected from 768 smallholder farmers in three different agroecological zones of Cameroon through a household survey.
- Data on 22 adaptation practices, split into Indigenous and local knowledge-driven (ILK), scientific knowledge-driven (SK), and livelihood diversification (LD) practices, help build a typology of adaptation practices.
- Multiple correspondence analyses and hierarchical clustering (MCA-HC) and Multinomial Endogenous Switching Regression (MESR) model.



Picture A: Bund for water harvesting



Picture B: Mulching for soil water conservation

## Results

- Typology of adaptation practices

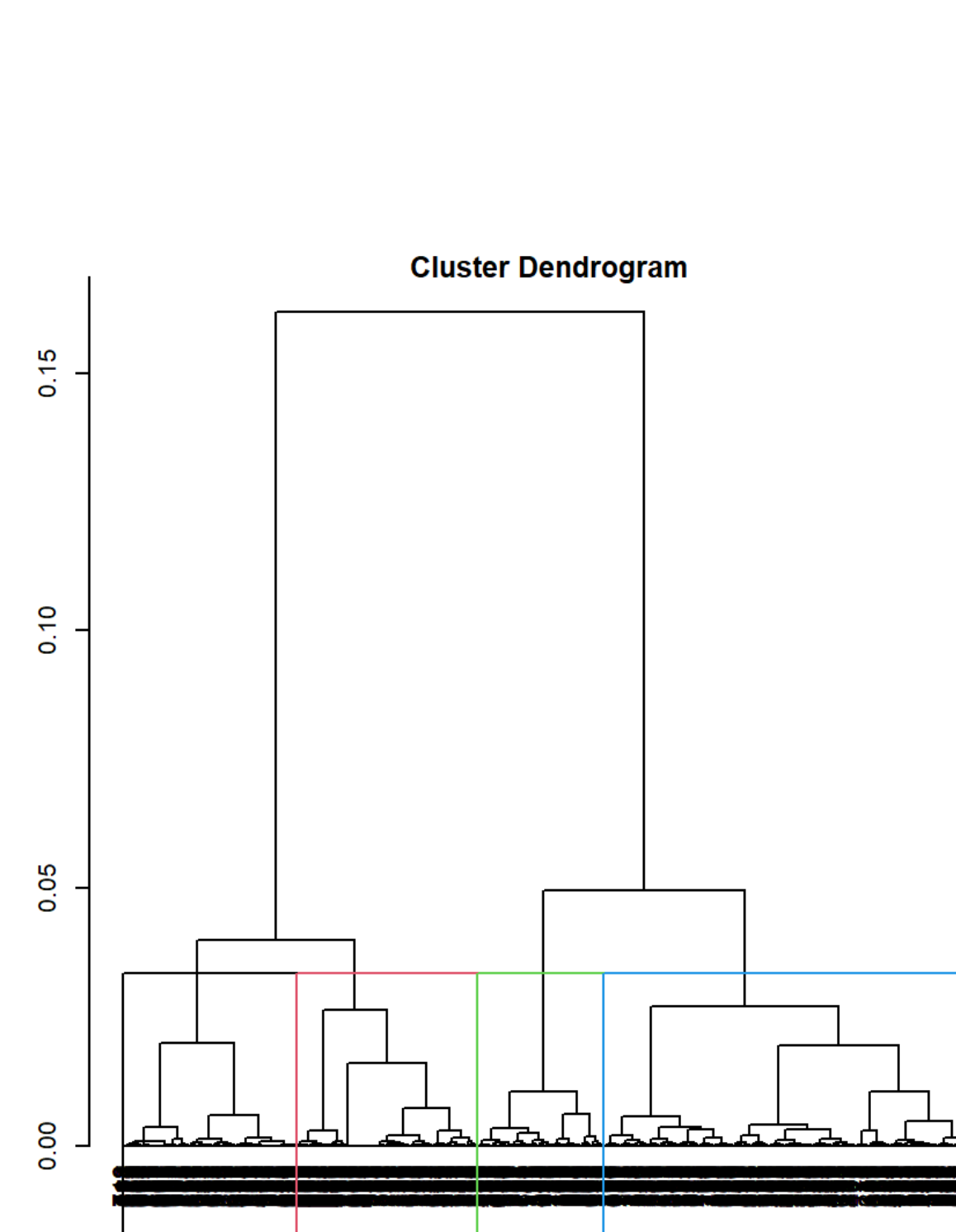


Figure 2: Hierarchical tree diagram

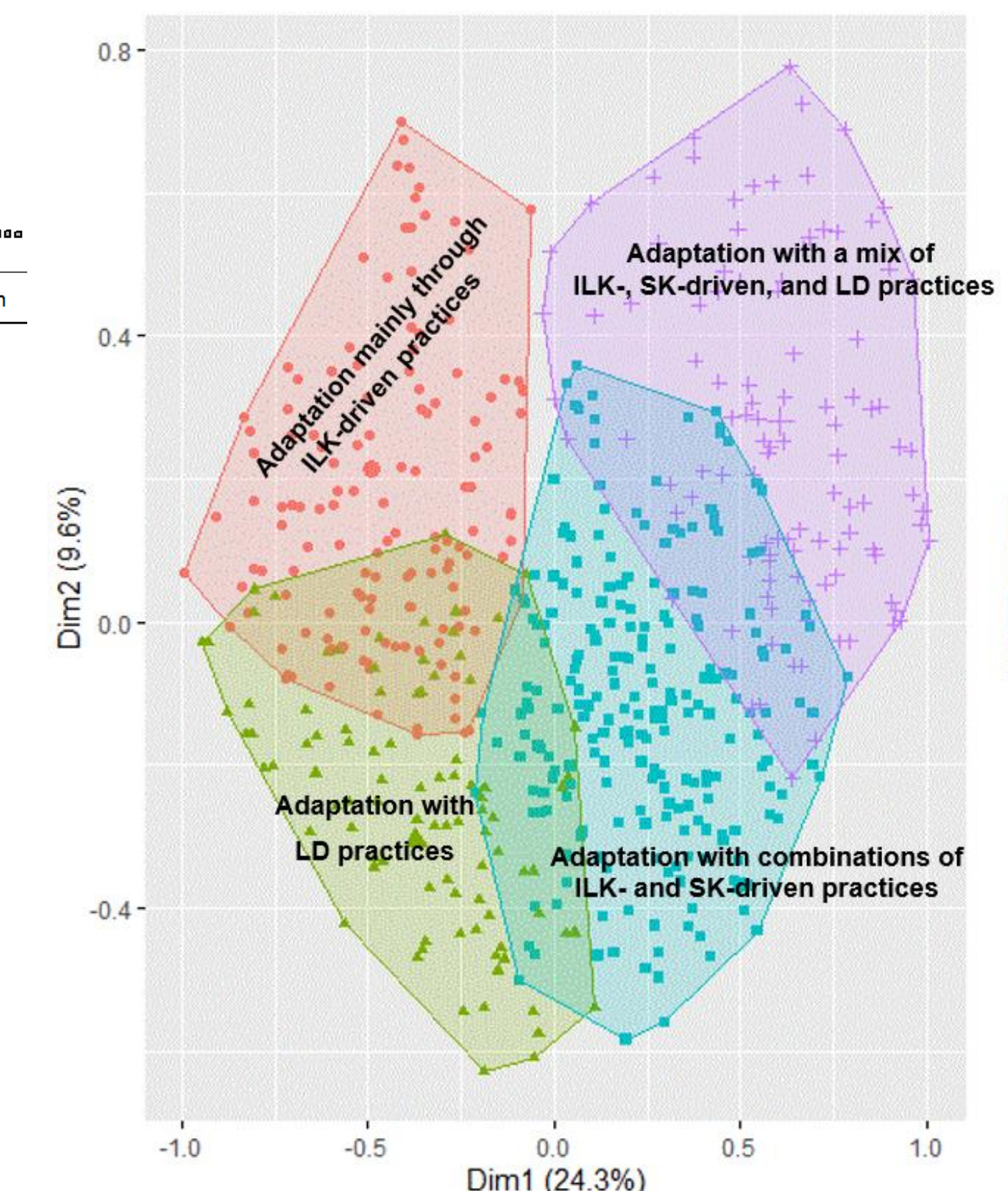


Figure 3: Cluster map of the adaptation typology

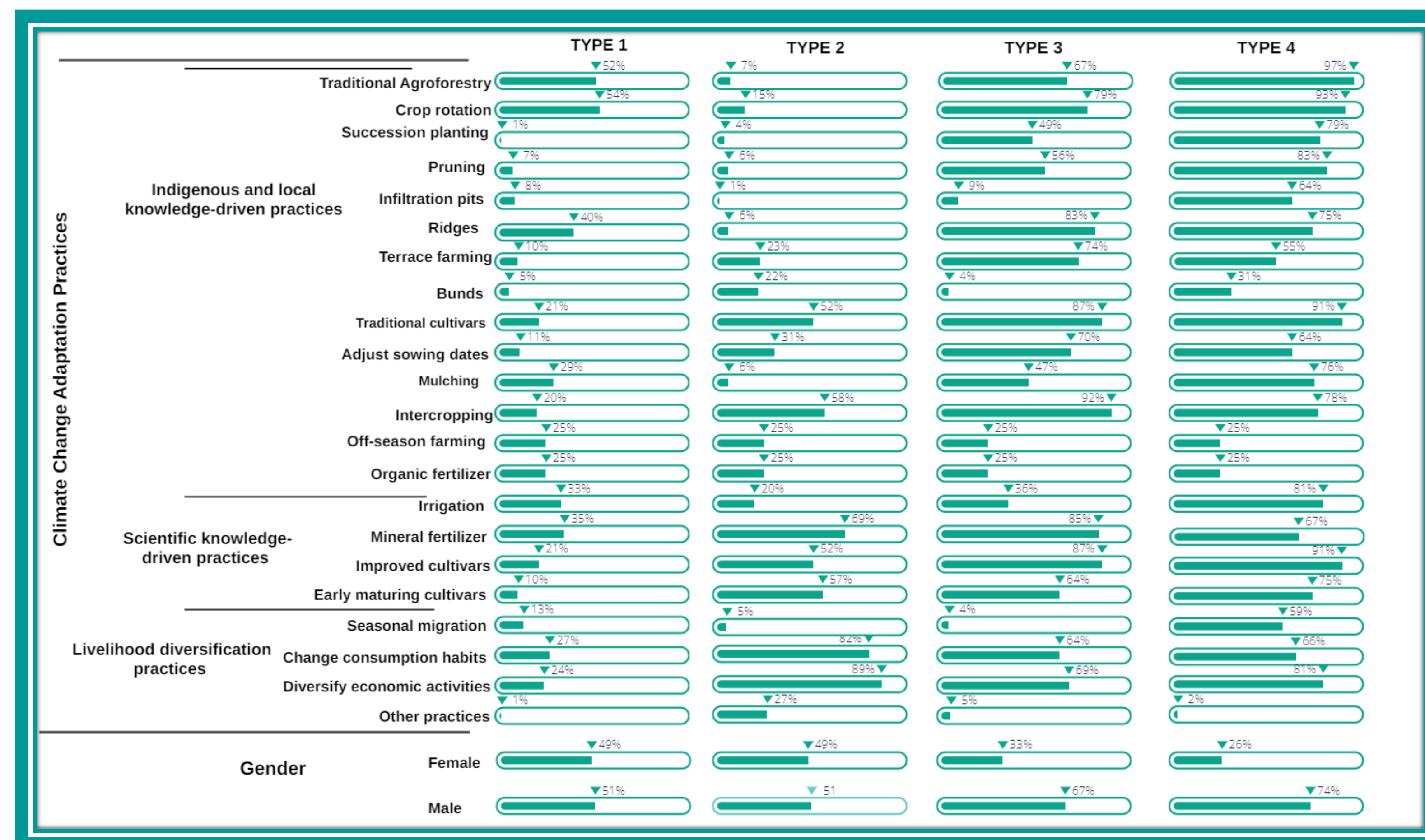


Figure 4: Percent distribution of the typology across individual adaptation practices and farmer gender

- Typology of adaptation practices and food security outcomes

Table 1: Bootstrapped ATT estimates of the food security impact of various types of adaptation practices

Treatments	Pooled Sample		Male		Female	
	HDDS	HFIES Score	HDDS	HFIES Score	HDDS	HFIES Score
Type 2 vs Type 1	0.114*** (0.014)	-0.199*** (0.034)	0.090*** (0.020)	-0.396*** (0.052)	0.142*** (0.024)	0.031 (0.046)
Type 3 vs Type 1	0.353*** (0.012)	0.211*** (0.022)	0.300*** (0.017)	0.183*** (0.032)	0.404*** (0.022)	0.289*** (0.032)
Type 4 vs Type 1	0.339*** (0.017)	0.207*** (0.026)	0.257*** (0.020)	0.151*** (0.037)	0.463*** (0.038)	0.336*** (0.046)
Observations	768	768	467	467	301	301

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1; standard errors in parentheses

## Highlights

- Farmers use four main types of adaptation practices (Types 1, 2, 3, and 4) to combat climate change.
- Type 1 involves ILK-driven practices; Type 2 focuses on LD practices; Type 3 is a mix of ILK and SK-driven methods; and Type 4 combines all three sets.
- Female farmers are most likely to engage Types 1 and 2, while their male counterparts are more inclined to engage Types 3 and 4.
- Types 3 and 4 improve dietary diversity but increase farm households' vulnerability to food insecurity, unlike Type 1 practices.